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## A Study of Certain Convenience Foods With Reference to Purchaser, Cost, and Nutritive Value

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A STUDY OF CERTAIN CONVENIENCE FOODS WITH REFERENCE  
TO PURCHASER, COST, AND NUTRITIVE VALUE

by

Naomi Jensen

A STUDY OF CERTAIN CONVENIENCE FOODS WITH REFERENCE  
TO PURCHASER, COST, AND NUTRITIVE VALUE

by

Naomi Jensen

Report No. 2 submitted in partial fulfillment  
of the requirements for the degree

of

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in

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Logan, Utah

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## INTRODUCTION

The various activities associated with the provision of food for feeding of the family traditionally have been functions of the home. One of the major enterprises of the homemaker in past years was to plan, produce or purchase, preserve, and prepare food daily for the family. The role of the homemaker today has changed from one of producer to one of purchaser. Hence, at least weekly, the selection of food at the market place involves not only the best use of her time but wise expenditure of her food budget.

The market is changing so rapidly that each year hundreds of new items are added to the grocery shelves. Lay-outs in stores, new packaging and prepackaging, added self-service, methods of check-out, increased size of stores, and the addition of non-food items have all had a tremendous effect upon the homemaker and her food budget.

The increase in the availability of food with built-in conveniences presents the homemaker with decisions to be made that were unheard of one generation ago. Never before has the homemaker had such a great array of convenience, variety, nutrition, and glamour to choose from. Today's consumer has a three-way choice and she may use one or all of the three ways as she desires. She may serve home-prepared foods if her time permits, or supplement part of her home-prepared meals with a few mixes, or rely entirely on the convenience

foods if her time is limited.

The many new and wonderful forms of foods that are available have greatly lightened the physical labor of the homemaker, but they have increased the mental work. The homemaker is confronted with many decisions regarding food value, money value, and time management. Is it wiser to spend her money for these so-called convenient foods which are ready to serve or partially prepared so that more of her time is freed for other family duties? Each individual homemaker has to answer this question for herself and her family.

Studies on differences in cost and nutritive value of certain convenience foods have not kept pace with the rapid increase in the number and kind of these convenience foods. A recent study giving average prices which was representative for the United States has been reported by Shays and Durham, 1963. Additional information on what is available in Utah grocery stores and on the effect of built-in convenience on cost is needed.

The purpose of this study was to determine the purchaser, cost and nutritive value of specific convenience foods. The study includes a survey of two super markets and a neighborhood grocery store in the Logan, Utah, area to check on the convenience foods purchased.

## REVIEW OF LITERATURE

The neighborhood general store of 100 years ago was the original one-stop shopping center. The customers came to buy not only the usual food items but also salted mackerel, lightning rods, ladies' hats, pickles, and purses. The grocer bought his wares from a platoon of drummers. There was no competition and at the end of a good day he had grossed \$10 to \$15 (Bailey, 1958).

At the turn of the century, the store was quite different. The grocer had become a specialist. There was a milliner down the street selling hats; a butcher shop next door. America was becoming urbanized and there was competition. However, with his hundred of customers, he grossed \$75 every day (Bailey, 1958).

### Groceries have a new look

The contemporary grocery is of a much larger size, does an average daily business of \$700,000 and, in a sense, is a throwback to the store of a century ago. Store sizes vary from 2,000 square feet of floor space in the smaller markets to 89,000 square feet of space in an immense supermarket (Progressive Grocer, 1964). The large stores are either part of a shopping center or they incorporate various shopping center features under one roof. Stores in the Logan area vary from 2,800 square feet to 23,800 square feet (King, 1964; Mathews, 1964).

Today, markets are attractive, convenient, and air-conditioned. They provide parking space, carrying-out services, and playgrounds for children. Frequently they offer check cashing services, snack bars, and prescription service. Three out of four markets offer trading stamps or carnival-type give-away games.

The growth of the food industry, too, has been phenomenal during the past few years. The old corner grocery store with its selection of only a few hundred food items has been replaced by the modern market and its thousands of items.

The size of this grocery wonderland takes on even more meaning when consideration is given to the rapidity with which the number of items has grown in recent years (Miller, 1962; Progressive Grocer, 1964; King, 1964; Mathews, 1964). This growth is shown in Table 1.

Table 1. Average growth of number of items in grocery stores from 1928 to 1964

Date	Number of items (average)
1928	867
1946	3,000
1950	3,750
1955	4,723
1958	5,600
1960	6,000
1964	7,100

The large supermarkets have as many as 15,000 items in their food inventory. A Logan supermarket has 5,854 packaged

grocery items, which were included in a total of 9,300 items available to the consumer. By comparison, a neighborhood market a few blocks away stocks a total of 5,000 to 5,500 items. The difference between the two stores is indicated by the volume of sales of each item as well as the number of items.

The past ten years has been a period of vast and rapid change in grocery merchandizing. Wolff (1958) reported that one-third of the food items offered today weren't even in existence ten years ago and this accelerated change will continue. She further stated that better than one-third of the food items women will be able to buy ten years from now, aren't on the grocery shelves today.

Family food planning and buying is a challenging job. To shop wisely in today's market takes knowledge, good judgment, and a keen sense of food values in relation to food costs.

Olmstead (1961) has stated that the responsibility of the Home Economist is to help families make food dollars buy more. This means more of everything: more food, more quality, more nutrition, more variety, and more convenience as this is a prime requisite for today's mode of living.

The American food supply today offers the greatest array of convenience, variety, nutrition, and glamour the world has ever known. A good example is the potato. Potatoes have been for centuries a staple of the American diet. A few years ago they had to be home grown in family garden plots or purchased



by the sack from another grower. In today's markets, potatoes can be purchased in as many as 58 forms, not brands. Potatoes are marketed as whole, dehydrated, canned, and frozen. They are not only available as potatoes, but are combined, in both dehydrated and frozen forms, with other ingredients to make various dishes: au gratin, scalloped, hash browns, etc.

Convenience forms for potato products have reversed the trend of decreasing consumption of potatoes (United States Department of Agriculture Bulletin No. 22, 1962). The development of convenient forms of potatoes has revived this sagging demand. From 1956 to 1960, per person use of processed potatoes doubled, which was more than enough to offset the long-term decline in fresh potato use and to increase the total use of potatoes.

As whole potatoes, they had been washed and sorted and many times had been bagged before they were offered for sale. Mathews (1964) reported that shoppers preferred the pre-bagged potatoes over the "loose" potatoes at a 15 to 1 ratio.

Better foods, new foods, more foods mean changes in shopping and food preparation habits. Today's shopper is "on her own." She is the judge of quality, value, brand, and price. Foods are displayed in attractive packages designed to sell themselves. The mouth-watering appeal of the product in a well-designed visible unit stimulates buying action and encourages the shopper to reach out and take it. Pre-packaging is another convenience and offers considerable appeal to the shopper. Thus, the stores are generally self-service (Olmstead, 1961; Miller, 1962; Barker, 1958).

Convenience foods account for from 10 to 40 percent of the total food sales in U. S. grocery stores. The market is changing so fast that each year hundreds of new items are added to the grocery shelves. Food industry men state that the growth of new food items with built-in maid service can easily be anticipated at a rate of approximately twice that for food in general (Olmstead, 1961).

The consumer is exposed to many more products than the totals indicate. According to Miller (1962), more items are added than stay on the shelves permanently. For every eight items introduced in the grocery store, five disappear from the shelves because they do not receive consumer approval. Also competition for space is keen and for every three items that come on the shelves, two have to move out. This growth in new varieties and combinations of familiar products is partly due to the work of food scientists and home economists in commercial kitchens who are endeavoring to find new outlets for products. Another reason for the growth is competition among the food manufacturers. If one company introduced a new product, other companies must follow. Much of this growth has been and is going on in such a quiet and orderly manner that most consumers are not aware of it.

#### Consumers have changed

It is not possible to consider changes in the market without considering changes in the consumer. The new consumer has been a real influence in bringing about changes in the market.

Today's consumer has more money to spend than formerly. There has been an approximate doubling of real income over a period of 20 years. The food purchase problem today is not whether to buy, but what to buy. Earlier marriages, longer span of life, and more leisure are other characteristics of today's consumer. Today's women are better traveled, and have more diversified interests than any women before them. Wolff (1958) reported that in 1957 over 42 percent of the women over 25 had completed high school. By 1958, 83 percent of all households had at least one television set and women were the greatest watchers. The leisure time available for recreation and travel has more than doubled in the last ten years. Women have become well-informed and interested in everything. They read more about food, know more about food, and expect more in food.

The teen-age segment of the population is larger than it has ever been as result of the "birth quake" of the 1940's. The early marriages add this age group to the total of women shoppers. Many of these married teenagers are students and are looking for quick food preparation. Many enter marriage without adequate training in homemaking skills and rely on pre-prepared foods. Very little specific home-planning of meals and buying is done.

Completely unplanned purchases have been a steadily increasing factor in supermarket sales (DuPont Study, 1959). Purchases that were specifically planned at home have steadily decreased during the past fifteen years. Unplanned purchases

have increased by over 15 percent during the same period of time. This increased percentage indicated a marked trend that shoppers were making most of their buying decisions after entering a store.

Changes in family living and eating patterns

Ramsey (1963) reported that more women were working outside the home while expanding their interests in community and world affairs. One out of three married women was employed. Many of the mothers, nine out of ten who have children under three, held part-time jobs. The number of part-time workers among women has increased more rapidly in the last ten years than the number of full-time employees among the female population.

The grand total of working women in 1960, married, single, widowed, and divorced, was a staggering twenty-four million, or one-third of the labor force in the country (Ramsey, 1963).

There has been an extraordinary social evolution taking place in living patterns during the past few years. Every family is developing an unmatched set of new tastes, new appetites, new habits, and new horizons. Increased income and decreased working hours have created more leisure time. There is more entertaining, especially informal entertaining. There is a basic interest in eating outdoors. At least 70 percent of the families sometimes served meals outdoors; 22 percent of these did so five to ten times a month. Outdoor serving is primarily to the family or to small intimate

groups, and a large part of it is done away from home as at picnics. Eighty-five percent sometimes view television and eat at the same time. The most likely occasion is during family snacks (Fish, 1957). Wolff (1958) stated that women are serving their families lighter meals, more nourishing foods, more slimming foods, more protective foods. This has been paying off for the women themselves who are found to average 5 pounds less weight than the women of 1932 (Ilew, 1961).

More new foods are tried, especially foreign dishes (Fish, 1957). The gourmet section in the grocery store has shown as much if not more accelerated growth than any other section. This has been due to the increased search for something new and different.

Better communications and the world-wide travels of the GI's, who make up many of the young married group, have widened their interest in foods and in the food problems of other nations.

#### More convenience foods

The increasing number of convenience foods available in our markets provides one of the most notable changes.

Convenience foods refers to foods which have services added to the basic ingredients to reduce the amount of preparation required in the home. That is, convenience foods require less work or adding of ingredients and less time in preparation in the home than the home-prepared counter-part (Harp and Dunham, 1963).

There is a tendency, quite often, to identify convenience foods only with the newer or exotic items, such as frozen spinach souffle, cheese blintzes, shrimp creole, delmonico potatoes, and the like. Yet these foods now represent only a small share in numbers and in sales volume of the convenience foods on the market. It would be difficult, however, to find a food in today's market which had not had some processing to make it more convenient, such as, washing, trimming, packaging, sifting, measuring, cooking, freezing, or drying. For example, apples are available not only fresh, but also in sauce, juice, nectar, cider, frozen, canned pie slices, dehydro-frozen apple slices, turnovers, fresh and frozen pie, dehydro-canned, dried, and nuggets. When a food becomes a regular item on the grocery list, its convenience quality is often overlooked. Ready-to-serve cakes and pies are seldom considered by the consumer as convenience foods, yet fresh baked items in the grocery store are ready-to-serve and are sold in relatively large numbers (Harp and Dunham, 1963).

A homemaker who is a skillful cook and has time will prepare many foods from basic ingredients, and be able to serve attractive, nourishing, low-cost meals, from the less expensive foods. Sometimes, however, convenience foods are less expensive than their home-prepared counterpart. A homemaker who is employed, is in poor health, or has numerous activities outside the home may prefer to buy processed and convenience foods to save time and energy. Another homemaker will make the product which she feels is better than she can buy, thus, she makes some and buys others.

According to Olmstead (1961), convenience foods include some of the most salable things in America today: increased leisure, reduced drudgery, better nutrition, and increased opportunity to show individuality in meal preparation without an abundance of repetitious kitchen chores.

#### Comparative costs of convenience foods

Miller (1962) reported that convenience foods as they are known today really came into being in the late 1940's. Now it is difficult to find any food department in the grocery store which does not contain a convenience food.

In a recent study made by the United States Department of Agriculture (Harp and Dunham, 1963), it was found that 14 percent of the total food sales in grocery stores were convenience foods. The more built-in-maid service usually raises the price of the product. For example, (Olmstead, 1961) there are 58 different forms of potatoes on the market and these can cost anywhere from 2 to 29 cents per serving depending on how much built-in-maid service women buy. Women who buy things like butter in squeeze tubes, colored salt, or maraschino raisins, will have to understand this glamour costs extra. However, only a few of these more expensive convenience foods are purchased by the average homemaker. The effect of the less expensive convenience foods, because of their volume, out-weighed the added cost of the more expensive ones (Harp and Dunham, 1963).

Food prices increased 21 percent from 1947 to 1961 and are still climbing (Miller, 1962). During the same period,



incomes increased 60 percent. In 1947 to 1949 it cost 26 percent of the average person's take-home pay to buy food; in 1960, 20 percent; and in 1964, according to a recent United States Department of Agriculture release, 18.5 percent. In addition, this money is buying better food. Miller (1962) reported that if in 1960 the same kinds and quantities of foods eaten in 1935 to 1939 were purchased only 16 percent of the 1960 incomes would be spent. The difference (2.5 percent) is spent for better diets, more services, and more enjoyment.

#### Acceptance of convenience foods

As the family income increases, the total amount spent for food increases, although a lower percentage is spent. Families with larger incomes purchased larger amounts of meat, poultry, fresh fruits and vegetables, and dairy products (Murry and Blake, 1959). More baked goods were used and smaller amounts of cereals and flour. This indicated the tendency to shift from services provided by the homemaker to services provided commercially as in convenience foods.

The general over-all rise in national income and number of working mothers has given an accelerated impetus to the use of convenience foods. Mass production of those items most readily accepted by the consumer has lowered the price. This frequently results in a price lower than the unserved food or the home prepared food.

The time saved in using convenience foods is also an important factor in their acceptance. If a reasonable value is placed on the homemaker's work time, the higher initial

cost of convenience foods is offset by the shorter preparation time.

### Palatability and quality of convenience foods

Consumers are as interested in quality as in convenience and cost of a product. Taste-appeal and eye-appeal are important factors.

King et al. (1962) found that acceptability ratings of most frozen, dehydrated, and canned potatoes were good. Generally, the products were comparable to those made from fresh potatoes. Various brands differed slightly in eating quality.

The home-prepared meat pies and pizzas received higher palatability ratings by the University meal management class than did their convenience counterparts (Smith, 1964). Packaged mixes ranked second and the frozen form received the lowest rating.

Of more importance than price to many consumers has been the freshness and softness of baked products (Harp and Dunham, 1963). Those workers reported that at least one commercial form of the convenience foods was as palatable and of as high quality as the home-prepared form.

### Future trends

Just as the past few years have seen many changes in food buying, preparing, and serving practices, the years ahead will see great changes. Automation, increased numbers of working women, and acceptance of more built-in-maid service will make their contributions. According to Wolff

(1958), better than one-third of the foods a woman will be able to purchase by 1970 are not yet on the grocery shelves. By 1975, irradiated foods should enjoy the same popularity that frozen foods do today.

The present rate of increase in population will continue to the extent that by 1965 the family formation age group, 17 to 21 years, will be 46 percent larger than in 1952 (Wolff, 1958). This will mean increasing numbers of children. The old age group will continue to increase because of the increase in life expectancy. A greater demand for convenience foods is expected.

Another factor which means an even greater increase in food sales than the population increase, will be the changing of food habits by the women. These changes will occur because of the upgrading of diets resulting from better nutritional education and a growing awareness of the importance of diet in weight control and degenerative diseases, the use of more convenience foods, and the selection from a wider range of items. Fewer high calorie foods, more proteins, less fats, and more fruits and vegetables will appear on our tables.

The mobility of today's families has been one of the major forces determining shopping patterns. The distance the consumer will travel to buy food has steadily increased and will continue to increase. The automobile will continue to take more people away from home at meal time and will shorten the time at home for those who take their meals there. There will be more and more eating away from home. According to

Wolff (1958), the woman of tomorrow will probably shop at a large store for variety and convenience. The number of small stores has declined steadily over the last 10 years while the number of large supermarkets has increased, as has their size, variety of items offered, and size of the sales.

Today's shopper markets once or twice a week. Tomorrow's shopper will market once a week and the purchases will be on a multiple basis.

The typical food buyer will continue to be the housewife, although the husband will no doubt play an increasing part in the family shopping as employment of married women increases and evening shopping hours continue to be provided by the stores. The husbands will offer new targets for the alert merchandiser.

New methods of preservation (for example, freeze-drying and irradiation) and packaging will continue to increase. Meat and other foods will be packaged at central factories. Today the food items for a main course or for dessert are available in convenience form. Tomorrow, there will be available many other forms including the items for a meal of several courses under one package.

## METHODS

From the hundreds of convenience foods on the shelves in Logan markets, it was necessary to make a selection of specific foods to be included in this study. Two resources were used as a means of determining the foods to include: the list of convenience foods included in the study reported in the United States Department of Agriculture bulletin, "Convenience Foods in Your Grocery Basket" (1962), and interviews with grocers in the Logan area to determine which convenience foods were purchased most frequently. The foods selected from these two sources were as follows:

potatoes—whole, instant, flaked, canned

TV dinners—chicken, turkey

pizza pies—frozen, packaged mix

chicken pie—frozen

yeast rolls—bakery, brown 'n serve, packaged mix

biscuits—refrigerated (canned), packaged mix

noodles—package, prepared mix

rice—instant, quick, long grain, prepared mix

pie crust mix

apple pie—bakery, frozen

apple pie filling

cake (German chocolate)—bakery, packaged mix

cakes (devils food and yellow)—bakery, packaged mix

frosting—powdered sugar, frosting sugar, packaged

mix

dips

This list of convenience foods was used in three ways: first, to determine how many shoppers purchased these items in three Logan grocery stores; second, to compare the cost of the various items with that of the same item made at home; and third, to compute food values.

#### Grocery store survey

A class of 22 girls in meal management at Utah State University surveyed a large supermarket, a medium-sized supermarket, and a corner grocery store located close to student housing areas. The student-checkers stood at the end of the check-out stands and recorded the purchases on the prepared survey sheet (Fig. 3) as the clerk rang up the sales. Purchases of 99 shoppers were checked at the large supermarket, 79 at the medium-sized supermarket, and 50 at the corner grocery store, making a total of 227 shoppers checked. Included in these 227 shopper units were 278 individual people of whom 86 were married couples and 14 were groups of teenage shoppers. The 227 shopper units will be used as the total throughout this report.

The checking was done over a period of eight days, with almost 50 percent of the checking done on Saturdays. The time of checking ranged from 10:00 in the morning to 9:00 in the evening.

The survey sheet included columns for checking the amount of each item purchased, the regular price, the sale price, if any, and the total amount of the sale. The number of items

other than food also was checked as none, 1, 2 to 5, or more than 5. The type of shopper and the age of the shopper were noted.

Cost of food items: convenience  
vs. home-prepared

Cost per serving for each food item included on the survey sheet was tabulated and compared to the cost of preparing the food at home. Prices for most food items were taken from tables of cost per serving of convenience foods reported by Harp and Dunham (1963) which were representative of average food prices in the United States. Costs per serving on a few other items were calculated with the assistance of members of the Utah State University meal management class. The amount of the main ingredient in the convenience food was determined by weight and equivalent weights were used in the home-prepared food item.

Time of preparation and of cooking were important factors in considering the value of convenience foods. United States Department of Agriculture workers (Harp and Dunham, 1963) have shown that less time is involved in using convenience foods than in preparing the food as purchased. They found that the use of about one-half of the convenience foods costs the consumer less than 60 cents per hour for the time saved using the convenience forms. Hence, additional work on this phase of the problem was not necessary at this time.

Food value comparisons

The nutritive value for each food on the survey sheet was



calculated on a 100 gram basis using the tables in "The Composition of Foods Handbook" (Watt, 1963) and "Food Values of Portions Commonly Used" (Bowes and Church, 1963). A few food items that were not in these tables were not calculated.

#### Evaluation of results

Data on the following factors were evaluated: a market survey and tabulation of the information, a comparison of cost of convenience foods vs. the same food prepared at home, and a calculation of nutritive value.

## RESULTS AND DISCUSSION

The past few years have seen many changes in the practices of buying, preparing, and serving of food. The consumer today has a choice of between five to nine thousand food items, depending upon the size of the grocery store. Most of these items are neatly packaged and labeled; many are inspected and graded. The markets of today are temples of plenty which are dedicated to the housewife.

The convenience foods are among those items which have seen a phenomenal growth. The variety of ways in which one food item can be purchased has grown extensively. Many foods are available in the fresh, frozen, canned, and dehydrated form.

This study has pointed out some interesting and salient facts regarding the use and cost of certain convenience foods. The change in the place of convenience foods in today's market basket was also evidenced.

### Survey of buying habits

The 227 shoppers observed in the study were divided into five age groups: teenage including married teenagers, other young married, middle age, older-middle age, and old age (over 65 years of age). The percentage of shoppers checked in each age group is shown in Figure 1.

The survey also checked the type of shopper. Buying practices vary as to whether the shopper was a woman alone,

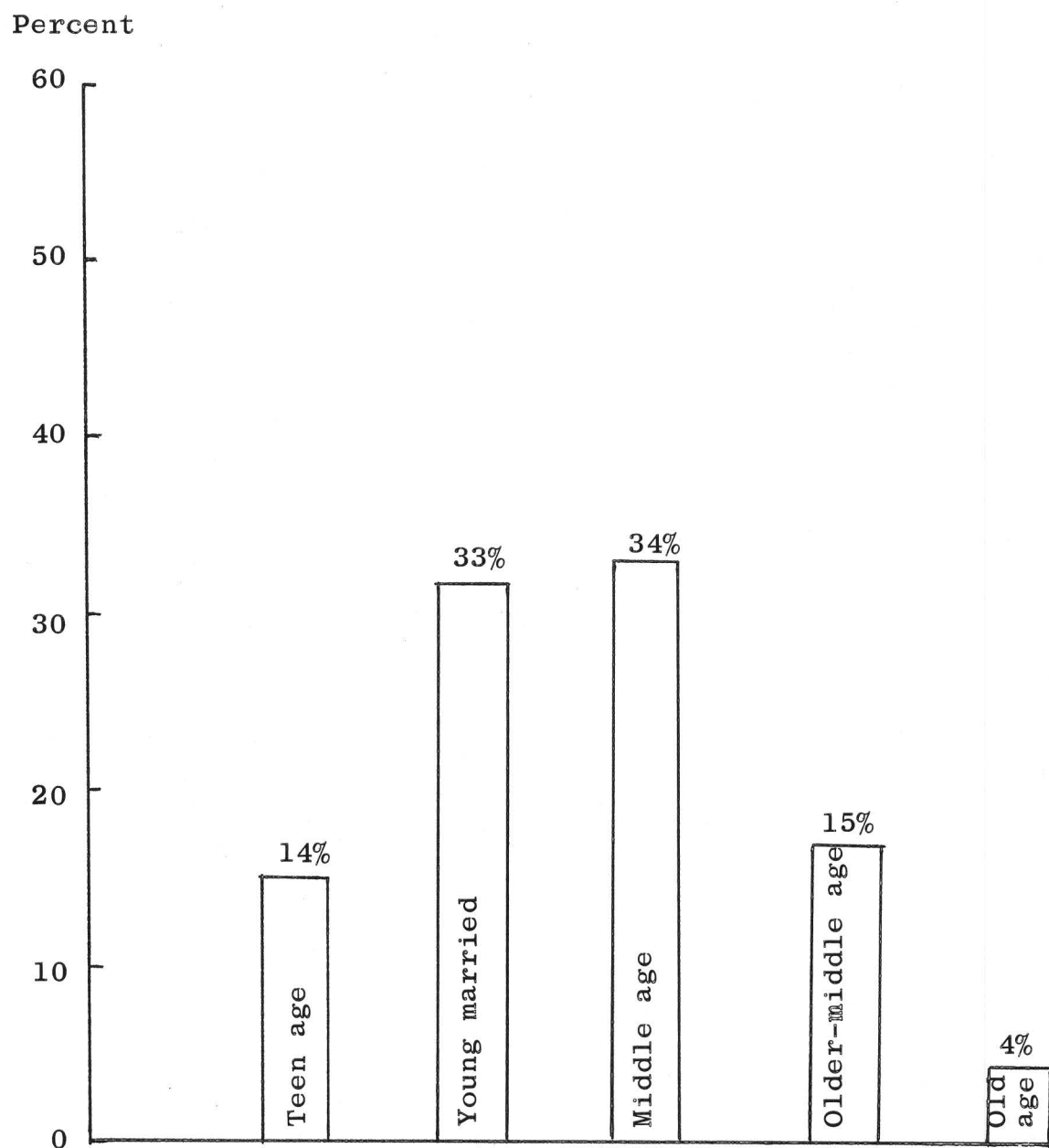


Figure 1. Percentage of 227 shoppers in each age group

a man alone, a teenager, a group of teenagers, or a family group (Table 2). Another classification, university students, was added as many of the shoppers in the large supermarket and the neighborhood grocery store were in this category. This resulted in some duplication because some university students were teenagers and some were young married couples. The girls making the survey checked them in both groups.

Over 57 percent of all the shopping was done by women alone. Only a few men shopped alone except in the old age group. In this age group two-thirds of the shoppers were men. Two possible explanations could be made: that shopping was an activity to help fill-in time for the retired groups and that the health of the woman of this age might not be good, so the husband did the shopping.

Data for the young married group, the middle aged group, and the older-middle aged group showed 27, 18, and 24 percent, respectively, of the shopping was done by couples. This bears out studies that have been made which indicate that today the husband is more and more cooperating in household tasks (Spindler, 1964). Part of this also may be due to the fact that one-third of the women in these age groups are working outside the home (Ramsey, 1963).

Potatoes, noodles, rice. In Table 3 is shown the purchases of rice, noodles, and potatoes. These items have been combined in one table as they are foods which generally are used as a basic food around which the main meal is planned. A summary of the three food items is shown in the last three

Table 2. Summary of age of shopper by store and type of shopper

Age of shopper	Store (No. shoppers)				Percentages of total shoppers	Type of shopper				
	Large market	Medium market	Neighborhood grocery	Total		Woman alone	Man alone	Couples	Teen age groups	University students <sup>a</sup>
Teen age	13	5	14	32	14	8	12	6	6	24
Young married	41	20	14	75	33	46	9	20	0	8
Middle age	22	38	17	77	34	53	10	14	-	-
Older-middle age	19	11	4	34	15	20	6	8	-	-
Old age	4	4	1	9	4	2	6	1	-	-
TOTAL	99	78	50	227		129	43	49	6	32
Percent of total shoppers						57	19	21	2.6	14

<sup>a</sup>Shoppers included in this column are duplicates of shoppers listed in the other columns

Table 3. Purchases of potatoes, noodles, and rice

Product	Age group					Total
	Teen age	Young married	Middle age	Older middle age	Old age	
<u>Potatoes</u>						
Whole						
No. shoppers	5	26	14	2	0	47
Lbs. purchased	65	303.5	147	18	0	533.5
Percent of shoppers	15%	35%	15%	6%	0%	21%
Instant						
No. shoppers	-	2	3	-	-	5
No. items	-	2	5	-	-	7
Flaked						
No. shoppers	2	1	-	-	-	3
No. items	2	1	-	-	-	3
Canned						
No. shoppers	-	-	-	1	-	1
No. items	-	-	-	4	-	4
Variety mix						
No. shoppers	-	2	7	4	-	13
No. items	-	2	10	11	-	23
<u>Noodles</u>						
Package						
No. shoppers	8	17	10	3	1	39
No. items	10	17	11	4	1	43
Mix						
No. shoppers	-	3	4	1	-	8
No. items	-	3	5	2	-	10
<u>Rice</u>						
Long grain						
No. shoppers	1	3	1	-	-	5
No. items	1	3	1	-	-	5
Instant						
No. shoppers	2	1	2	1	-	6
No. items	2	1	2	1	-	6
Quick						
No. shoppers	1	2	2	-	-	5
No. items	1	3	2	-	-	6
Variety mix						
No. shoppers	-	-	1	-	-	1
No. items	-	-	1	-	-	1
Percent of shoppers	60	76	57	35	11	59

columns of the table. A total of 133 items were purchased which means an average of 59 percent of the shoppers made selections in this category. In the young married group, 76 percent of the shoppers purchased potatoes, noodles, and rice, however, whole potatoes accounted for 35 percent of the purchases.

During the week of the survey, potatoes were on a special sale at all of the three stores checked. This may have influenced the purchases to some extent. Twenty-one percent of the 227 shoppers in the survey purchased 534 pounds of potatoes.

The middle age group purchased the largest amount of potatoes, rice, and noodles in the partially prepared forms where only liquid need be added to make a one-meal dish. It may be that there were a large number of children in this group who were probably teenagers and because of heavy schedules of activity, quick means were desirable. In this middle age group many mothers are working for pay or do church and civic work in the community.

In the young married group, potatoes were purchased by 35 percent of the shoppers. This was by far the highest percentage as the other groups were all under 15 percent. No doubt some of the factors involved here were that this was the group with young children, growing families, and working men who need more food.

No potatoes in any form were purchased by shoppers in the old age group. This could indicate that people who were over 65 years of age were not interested in foods that required



preparation even though that preparation was limited. This age group also has less interest in food and eats less so they make purchases infrequently.

Although, percentage-wise, more shoppers in the young married group purchased whole potatoes (35 percent), it is interesting to note the difference when the purchases were figured by pounds of potatoes per shopper unit. On this basis the teenagers bought the most pounds per shopper unit. The range in decreasing order follows:

Teen age	15 lbs. per shopper unit
Young married	11.68 lbs. per shopper unit
Middle age	10.5 lbs. per shopper unit
Older-middle age	9.0 lbs. per shopper unit
Old age	0.0 lbs. per shopper unit

Seventeen percent of the shoppers purchased noodles. Most of these shoppers were in the young married group and the middle age group (43 and 26 percent). Here again the explanation for these groups buying the most noodles may be that these were families with working men, growing children, and teenagers.

Noodle mixes were purchased by 4 percent of the shoppers. These mixes, as well as the rice mixes, are prepared to make 4 servings which usually are not enough for many families and so require multiple purchasing.

Only 2 percent of the shoppers purchased rice in each of the three forms. Clerks in the Logan markets maintained that only the foreign students at the Utah State University selected

raw rice and that the quick and instant forms were selected by American shoppers. One shopper in the middle group selected a rice mix.

TV dinners, meat pies, and pizza pies. It is in this field of complete one-dish foods that one of the greatest growths in convenience foods has taken place. The growth is not only in total number of food items, but in the variety of items available.

TV dinners were offered at a special price during the time the survey was made. This special sale may have influenced the purchasing of these items. The middle age group purchased more TV dinners than any of the other groups (Table 4). The three age groups buying the most TV dinners were the older middle age group (15 percent) who purchased 21 dinners; the middle age group (14 percent) who purchased 38; and the young married group (9 percent) who purchased 17. Only a few teenagers and no one in the old age group purchased TV dinners. Grocers in the Logan area reported that many of the old age people, several of whom are on welfare, are the highest purchasers of TV dinners. This survey did not substantiate this claim.

By calculating these purchases of TV dinners on a per shopper unit basis, the results were as follows:

Teen age	4 per shopper unit
Young married	2.5 per shopper unit
Middle age	4 per shopper unit
Older-middle age	4 per shopper unit
Old age	0 per shopper unit

Table 4. Purchases of TV dinners, meat pies, and pizza pies

Produce	Age group					Total
	Teen age	Young married	Middle age	Older middle age	Old age	
<u>TV Dinners</u>						
Chicken						
No. shoppers	2	4	8	3	-	18
No. items	11	10	31	18	-	70
Turkey						
No. shoppers	1	2	3	1	-	8
No. items	2	5	7	2	-	16
Beef						
No. shoppers	-	1	-	1	-	2
No. items	-	2	-	1	-	3
<u>Pizza Pies</u>						
Frozen						
No. shoppers	-	-	1	-	-	1
No. items	-	-	1	-	-	1
Package mix						
No. shoppers	8	11	4	-	-	23
No. items	15	16	6	-	-	37
<u>Meat Pies</u>						
Chicken						
No. shoppers	1	13	9	3	-	26
No. items	1	58	44	16	-	119
Percent of shoppers	38	41	35	24	0	34

Spindler (1964) reported that TV dinners were used when quick meals were needed, when children needed to prepare meals because parents were not at home, when the father was absent at mealtime, or when only the parents were left at home. She also reported that the size of a TV dinner was not sufficient for the needs of a working man and the dinners were not used when the husband was at home. This may account for the lower amount per shopper unit purchased by the young married group.

Pizza pies are a snack and party food as well as a regular meal food for teenagers. The survey points up this fact when 8 teen age shoppers (25 percent) purchased 15 pizza mixes, or 2 per shopper. Young married shoppers (14 percent) and the middle age shopper (5 percent) also purchased pizzas. The packaged mixes give opportunities for several variations to suit the taste and income of the shopper. Only one purchase of a frozen pizza (the complete pizza) was made and this was by a shopper in the middle-aged group. The older-middle age and old age groups purchased no pizza. Pizzas are usually tangy and spicy and, therefore, generally do not appeal to the tastes of older people.

Meat pies sold at 7 for \$1.00 during the week of the survey. This might account for the fact that 26 shoppers purchased 119 pies. A higher percentage of shoppers in the young married group purchased meat pies than any of the other groups. Next in rank was the middle age group.

On the basis of pies purchased per shopper unit, 3 shoppers in the older-middle aged group purchased 16 pies or

over 5 pies per shopper. The others ranged as follows for pies per shopper unit: the middle age group, almost 5 pies; the young married group, 4 pies; the teen age group, less than one pie; and the old age group, none.

To summarize, one-third of the shoppers purchased an average of 3 items for each shopper. In the young married group, two-fifths of the shoppers, and in the teen age and middle age groups, one-third of the shoppers made purchases in this category.

Yeast rolls and biscuits. This is one of the areas in which many changes in buying habits have taken place. Few homemakers today do the baking their mothers did. With the new developments of science, convenience foods such as the brown 'n serve rolls are now available. These may be obtained in pre-packaged form from the grocery shelves or in a pre-packed frozen form from the freezer section. Refrigerated canned rolls and biscuits have gained much prominence in the last two or three years and may be obtained in several varieties. One of the latest products in baked goods that has come on the market is the frozen bread. Often this frozen bread is used for rolls.

Forty-nine or 22 percent of the shoppers purchased 60 dozen pre-packaged bakery rolls (Table 5). By comparison 2 percent purchased brown 'n serve rolls and roll mix. One package of frozen bread was purchased by a shopper in the young married group.

When the purchases were compared on an age group basis, 33 percent of the older-middle age and the old age shoppers

Table 5. Purchases of yeast rolls and biscuits

Product	Age group					Total
	Teen age	Young married	Middle age	Older middle age	Old age	
<u>Yeast rolls</u>						
Bakery						
No. shoppers	6	14	15	11	3	49
Amount (doz.)	6	17	16	14	7	60
Brown 'n serve						
No. shoppers	-	2	2	1	-	5
No. items	-	3	3	2	-	8
Mix						
No. shoppers	-	1	2	-	1	5
No. items	-	2	3	-	1	6
<u>Biscuits</u>						
Canned						
No. shoppers	4	18	5	3	-	30
No. items	12	31	10	3	-	56
Mix						
No. shoppers	4	7	3	2	-	16
No. items	4	7	3	7	-	21
Percent of shoppers	44	56	35	50	45	46

made selections of pre-packaged rolls. In the other three groups, 19 percent of the shoppers bought the pre-packaged rolls.

Canned refrigerated biscuits sold for 10 cans for \$1.00 at the time the survey was made. A total of 30 shoppers (14 percent) purchased 56 cans of biscuits, or almost 2 cans per person. It would seem that this multiple price did not effect any quantity buying. A possible reason could be that canned biscuits have a limited refrigerator life. On a percentage of shoppers basis, 24 percent of the young married group purchased 31 cans of biscuits. The teen age group was next with 12 percent; older-middle age with 9; middle age with 7. The old age shoppers did not select canned biscuits.

The purchasing of biscuit mixes showed the same buying trend as was shown with the canned biscuits except on a smaller scale. However, there was an important factor to consider in comparing these two convenience items. A can of biscuits has an average of 10 biscuits (about 1 1/2 inches high, baked) which could be considered enough for 5 or 6 people. The majority of mixes purchased were 40 ounce packages which would make approximately 54 two-inch biscuits.

A total of 104 shoppers or 46 percent purchased 151 items in the yeast roll-biscuits category. A listing in decreasing order of the percentage of shoppers in each age group was as follows:

Young married	56 percent
Older-middle age	50 percent
Old age	45 percent
Teen age	45 percent
Middle age	35 percent

Pies, cakes, and frostings. Many more frozen pies were purchased than bakery pies or the mixes needed to make a pie (Table 6). Eighteen shoppers or 8 percent purchased frozen pies and they were selected by shoppers in all the age groups. Five shoppers in the young married, middle age, and older-middle age groups purchased bakery pies. No bakery pies were purchased by shoppers from the teen age and old age groups. Three shoppers in the teen age and young married groups purchased a pie crust mix. Canned pie filling was purchased by three shoppers in the young married and middle age groups. Homemakers report that the frozen pies more closely resemble the flavor of a home prepared pie. This could account for the fact that almost 4 times as many frozen pies as bakery pies were selected.

Only 7 percent purchased 20 bakery cakes. These ready-to-serve cakes were purchased by all age groups except the teen age group. Percentage wise more shoppers (22 percent) in the old age group purchased bakery cakes than any other age group. Eighty-seven cake mixes were purchased by 21 percent of the shoppers and all groups bought mixes except the old age group. Thirty percent of the shoppers in both the teen age and young married groups purchased cake mixes while 1 percent purchased packaged frosting mixes.



Table 6. Purchases of pies, cakes, and frostings

Product	Age group					Total
	Teen age	Young married	middle age	Older middle age	Old age	
<b>Pies</b>						
<b>Bakery</b>						
No. shoppers	-	3	1	1	-	5
No. items	-	4	1	1	-	6
<b>Frozen</b>						
No. shoppers	5	7	2	3	1	18
No. items	7	17	4	3	2	33
<b>Crust mix</b>						
No. shoppers	1	2	-	-	-	3
No. items	1	2	-	-	-	3
<b>Filling</b>						
No. shoppers	-	2	1	-	-	3
No. items	-	2	2	-	-	4
<b>Cakes</b>						
<b>Bakery</b>						
No. shoppers	-	2	9	2	2	15
No. items	-	2	12	2	4	20
<b>Mix</b>						
No. shoppers	9	23	11	6	-	49
No. items	10	35	27	15	-	87
<b>Frostings</b>						
No. shoppers	1	1	1	-	-	3
No. items	1	1	3	-	-	5
Percent of shoppers	50	50	33	35	33	41

A total of 94 shoppers or 41 percent purchased 155 items in this category. On a percentage basis this breaks down to the following:

Teen age	50 percent
Young married	50 percent
Middle age	33 percent
Older-middle age	35 percent
Old age	33 percent

Dips. The clerks in the Logan markets reported that shoppers purchased quite a number of the prepared dips whose base is sour cream. In this survey, only 3 percent of the total shoppers purchased dips. One carton of sour cream was purchased by a shopper in the middle age group. The number of shoppers buying dips was as follows:

	Shoppers	No. Cartons
Teen age	0	0
Young married	4	7
Middle age	3	4
Older-middle age	0	0
Old age	0	0

Dips usually are used as party fare and often are tangy in flavor. This could account for the buying pattern that was shown.

Comparison by age groups. There seemed to be a few specific buying patterns for each group. More shoppers, on a percentage basis, in the young married group bought more convenience foods in each of the food groups (Table 7). The teenage shoppers were not far behind. The old age shoppers

Table 7. Percentage of shoppers by age groups purchasing convenience foods

Product	Teen age %	Young married %	Middle age %	Older middle age %	Old age %
Potatoes—Noodles—Rice	60	76	57	35	11
Potatoes (whole)	15	35	15	6	0
TV dinners—Pizza—Meat Pies	38	41	35	24	0
Yeast rolls—Biscuits	44	56	35	50	45
Pies—Cakes—Frostings	50	50	83	35	33
Average	48	56	40	36	22

Table 8. Number of shoppers who bought at least one convenience food item

Age group	Total shoppers	Shoppers of convenience food
Teen age	32	26
Young married	75	62
Middle age	77	53
Older middle age	34	31
Old age	9	4
Total	227	176

purchased convenience items with the most built-in-maid service. For example, 45 percent of them bought bakery rolls and one roll mix. They also bought frozen pies and bakery cake. Although the older-middle age group made selections in each of the food groups, they tended to buy those with more built-in-maid service. Younger groups bought mixes which required preparation for baking or cooking.

Although many shoppers bought convenience foods in more than one category, some bought only one item and others made no purchases (Table 8). This is also shown in Figure 3 on a percentage basis. More shoppers in the older-middle age group purchased one or more convenience foods than did any of the other groups. Some built-in-maid service was of value to 77 percent of the shoppers. One-fourth of the shoppers on the days surveyed made no purchases of convenience foods. Whether these percentages were an indication of the buying pattern of today's homemaker could be established only with a more extensive survey.

Purchase of non-food items. Today's markets are becoming more and more one-stop shopping centers. The total amount recorded on the cash register slip does not always indicate the amount spent on food. Sixty-four percent of the shoppers purchased one or more items which were not food items (Table 9).

One-third of the shoppers made no purchases other than food. Of these, 44 percent of the older-middle age group and 41 percent of the teen age group purchased no food items.

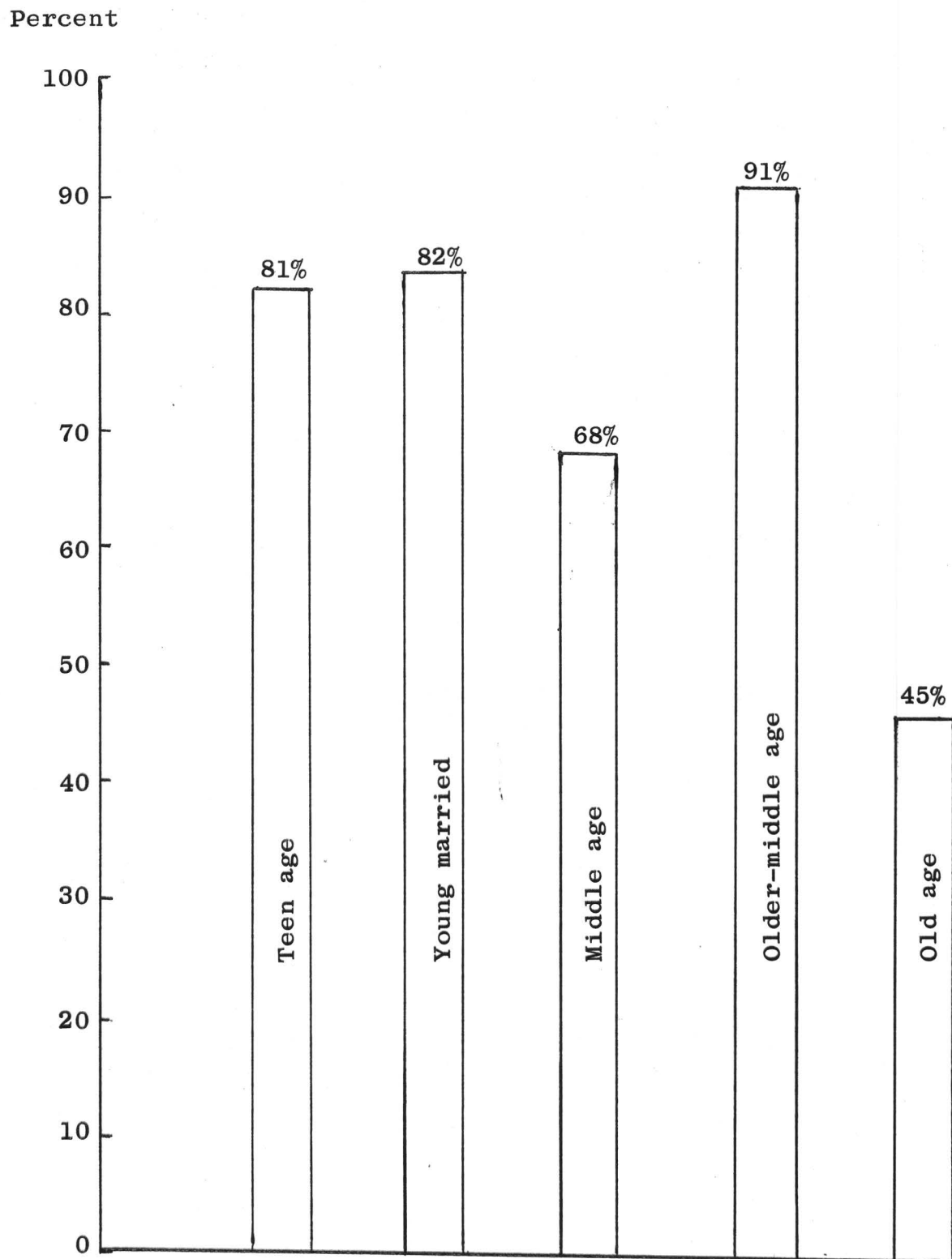


Figure 2. The percentage of shoppers in each age group who purchased convenience foods

Table 9. Purchases other than food items

Age group	None	Percent <sup>a</sup> shoppers	One	Percent shoppers	2 to 5	Percent shoppers	Over 5	Percent shoppers
Teen age	13	41	6	20	7	21	6	20
Young married	26	35	7	9	22	29	20	24
Middle age	25	32	16	21	26	34	10	13
Older-middle age	15	44	7	21	5	15	7	21
Old age	3	33	1	11	3	33	2	22

<sup>a</sup>Percent of shoppers within each age group

The buying trend of non-food items was in the upper categories: 2 to 5 non-food items and over 5 non-food items. Percentages were higher in the 2 to 5 group than in either of the other two groups where non-food items were purchased. The middle age group (34 percent) made the most purchases. Although the average percentages in each group were relatively low, a total of 64 percent of the shoppers purchased at least one non-food item. This is in line with the observations made by Miller (1962) that indicated an increased purchasing of non-food items in today's markets.

Amount of sale. A comparison of the amount of the sales in the survey is given in Table 10.

Table 10. Comparison of amount of sale

Age of shopper	Range of sale	Total sale	Average sale
Teen age	\$ .60 to \$30.81	\$ 334.21	\$10.45
Young married	.58 to 46.69	1032.25	13.13
Middle age	.93 to 36.53	899.75	11.84
Older-middle age	1.55 to 25.31	358.59	10.54
Old age	.49 to 17.52	70.72	8.84

These amounts are not the true picture of the money spent for food as non-food items are included. Therefore, there is no possibility of making an accurate comparison between age groups.

Comparative costs of convenience  
foods and home-prepared foods

When considering the place of convenience foods in today's market basket, a comparative cost study of the convenience foods and home-prepared foods should be made. A pertinent question that could be asked is: what effect does the buying of convenience foods have on the food budget?

In the survey it was noted that of the 227 shoppers checked, 77 percent purchased at least one convenience food item. A total of 615 convenience foods were purchased by all age groups.

In Table 11 is shown the comparison of the cost of the foods included in the survey by size of servings. The size of each serving was the same or nearly the same for each convenience food form and its home-prepared counterpart.

For each of the 4 potato products compared, the cost of the convenience food form exceeded the cost of the home-prepared form. Dehydrated mashed and au gratin potatoes were 50 percent more expensive in cost; dehydrated and frozen hash brown were 100 percent more expensive.

Both the dehydrated rice and noodle mixes were much more expensive than their home-prepared counterpart would be. Not only would this be due to the extra maid-service that was built-in, but only 4 small servings are possible from one package of the mix. Homemakers have reported that an adult man or teenage boy would need a much larger serving and so multiple purchasing would be required which would add considerably to the cost per serving (Spindler, 1964).



The quick form of rice added only 0.5 of a cent to the cost per serving but the instant rice added 3.5 cents which is more than double the cost per serving of long grain rice.

The cost of chicken and turkey frozen dinners was about 2 1/2 times that of the home-prepared form. The frozen dinners have been rated as one of the convenience items that added the most cost to the food budget (United States Department of Agriculture bulletin No. 22, 1962).

Frozen meat pies, chicken and beef, cost about 20 to 25 percent more than their home-prepared counterpart. The pizza mix was 20 percent higher than the home-prepared pizzas but the frozen pizzas were double in cost.

The commercial mixes in yeast rolls and biscuits and the refrigerated canned biscuits cost very little more than their home-prepared counterpart (Table 11). However, as extra convenience was added, cost increased rapidly, so that bakery rolls and frozen biscuits were 2 1/2 times higher than the home-prepared forms. These two convenience items are included with TV dinners as contributing the most to increased food costs.

Apple pie was another example of the way in which the increase in built-in-maid service added to the cost (Table 11). Home-prepared pies were only slightly lower in cost than when an incomplete mix (crust mix and home-prepared filling) was used. The cost increased 20 percent when a complete mix (crust mix and canned filling) was used, almost doubled for a frozen pie, and more than doubled for the bakery form.

Devil's food cake, yellow cake, and German chocolate cake were all less expensive as incomplete mixes (eggs added) than were the home-prepared forms of cake. Mass production is undoubtedly an influencing factor. The frozen form of the devil's food cake was more than double in cost. The bakery forms of the devil's food cake and the yellow cakes were from 40 to 50 percent more in cost while the German chocolate cake (icing included) in the bakery form was 300 percent higher. The German chocolate frosting mix cost one-half as much as the home-prepared form. When the special frosting sugar is used in icing the cost is increased 50 percent and the frosting mix 100 percent over the powdered sugar form.

The cost of the home-prepared dips varied according to what flavor of the dip was desired. The commercially prepared dips of all flavors were 49 cents per cup. If a packaged dip seasoning were used with sour cream, the cost would be 60 cents (Table 11). If ingredients like instant onion, chopped parsley or chopped chive, which are often found on pantry shelves, were used the added cost to that of the sour cream would be only a few cents.

With these few exceptions, the convenience forms of the various foods cost more than their home-prepared counterpart. As more built-in-maid service became available, the cost increased. The more expensive convenience food forms were usually the ones which saved the homemaker considerable preparation time.

Food value purchased

It is difficult to talk about the value of a food item without including its nutritive value. When a homemaker purchases food she purchases the ingredients that result in healthy, growing bodies, abundant energy, and active minds. Today more people have more knowledge about nutrition than ever before. Today's homemaker is better educated than her mother was and expects more nutrition for her money. New methods and processes of food production and food preservation have been introduced into the industry. Here again, it is the "built in" service that consumers demand and expect.

Table 12 gives a summary of the nutritive value of 100 grams of the convenience food forms and their home-prepared counterpart (Watt et al., 1963).

By comparing the various food forms in the table, convenience vs. home-prepared, it can be seen that the majority of them vary only slightly. The variations, for the most part, are where other ingredients are added to the basic ones. For example, the mashed potatoes are higher in some of the nutrients when fat is added in addition to milk. The nutritive value of the home-prepared potatoes fairly well parallels the dehydrated form.

When the same amount of each ingredient is used, the noodle and rice mixes would have equal nutritive value whether a home-prepared form or a convenience form were used. This is true also of the TV or plate dinners.

The one variation of note in the biscuits is the fat content. The home-prepared form is generally much higher in fat content than either the canned refrigerated biscuits or the mix (plus milk).

## SUMMARY

The purchases by 227 shoppers of 14 food items which are sold in various convenience forms were studied from the standpoint of who made the purchases, the comparative costs of the food items, and the food value purchased. A survey was conducted at two supermarkets and a neighborhood grocery store in the Logan area.

Over 57 percent of all shopping was done by women alone. 19 percent by men alone, 21 percent by couples, and 2.6 percent by teen age groups.

More shoppers (56 percent) in the young married group made purchases of convenience foods; the teen age shoppers ranked second (48 percent). The old age shoppers and the older-middle age shoppers purchased convenience food items with the most built-in-maid service. To 77 percent of the shoppers some built-in-maid service was of value, as these shoppers purchased at least one convenience food item.

Fifty-nine percent of the shoppers made selections in the potatoes, noodles, and rice group. However, whole potatoes accounted for 35 percent of these items. The middle age group, in all cases, purchased the highest amount of potatoes, noodles, and rice in the variety combinations where only liquid is added to make a one-dish-meal.

The middle age group purchased more TV dinners than any of the other groups. More teenagers purchased pizza mixes

than did any of the other groups. A higher percentage of shoppers in the young married group purchased more meat pies than any of the other groups. Next in rank were the middle age shoppers.

More yeast rolls were bought as pre-packaged rather than brown 'n serve rolls. Older-middle age and old age shoppers bought more of these while the young married and teen age shoppers bought more of the canned refrigerated biscuits.

More frozen pies were purchased than bakery pies or pie mixes. Young married and teenage shoppers bought more of the frozen pies. The young married and middle age shoppers purchased more cake mixes while the middle age shoppers bought more bakery cakes than the other groups did.

With the exception of cake mixes and some of the dips, the convenience forms of the various foods studied in this survey cost more than their home-prepared counterpart. The cost increased as more built-in-maid service was added.

The nutritive value of the specific food forms varied only slightly. The variation depended upon the kind and amount of other ingredients which were added to the basic ones. The one variation of note was in the fat content of biscuits. The home-prepared form is generally much higher in fat content than either the canned refrigerated biscuits or the mix (plus milk).

## CONCLUSIONS

Every homemaker has three things to spend: time, energy, and money. How she "spends" these items or balances one with another in order to supply her family with tasty and nutritive meals, will depend upon the family income, family age and size, eating habits, her health, and her activities. The homemaker herself must make the necessary decisions. She has a three-way choice and she may use one or all three of the ways as she desires. She may serve home-prepared food if her time and health permits, or supplement part of her home-prepared meals with a few mixes, or rely entirely on the convenience foods if her time is limited.

Palatability ratings or family acceptance of flavor of the convenience foods differ according to the individual and the family eating patterns. The homemaker should consider these habits when shopping and not purchase food forms regardless of cost which are not acceptable to family members.

Family food planning and buying is a challenging job. To shop wisely in today's market takes knowledge, good judgment, and a keen sense of food values in relation to costs. The homemaker needs to study the food ads carefully and should not be misled by advertizing and supersalesmanship. She needs to understand and weigh the cost, time, and energy saved and family acceptance of flavor of convenience foods in order to buy wisely.

## LITERATURE CITED

- Anonymous. 1959. Today's buying decisions. Sixth DuPont Consumer Buying Habits Study. Wilmington, Delaware.
- Anonymous. 1962. Convenience foods in the grocery basket. United States Department of Agriculture Marketing Bulletin No. 22.
- Bailey, Ray T. 1958. One hundred years of food distribution. Report of Proceedings of Eighth Annual Food Forum, New York City, Nov. 6-7, 1958. p. 93-110.
- Barker, Stephen M. 1958. Packaging 1959—and in 2009. Report of Proceedings of Eighth Annual Food Forum. New York City, 1958. p. 113-120.
- Bowes, A. D., and C. F. Church. 1963. Food value of portions commonly used. Ninth Ed. J. P. Lippincott Co., Philadelphia. 130 p.
- Fish, James S. 1957. Young marrieds' food habits and problems. Report of Proceedings of Seventh Annual Food Forum, New York City, Nov. 7-8, 1957. p. 63-72.
- Harp, Harry H., and Denis F. Dunham. 1963. Comparative costs to consumers of convenience foods and home-prepared foods. United States Department of Agriculture Marketing Report No. 609.
- King, James. 1964. Personal communications.
- King, P. L., G. L. Gilpin, and E. H. Dawson. 1962. Comparison of several market forms of potato products. Journal of Home Economics. 54:837-841.
- Lew, Edward A. 1961. New data on underweight and overweight persons. Journal of American Dietetics Association 38:323-327.
- Mathews, Stan. 1964. Personal communication.
- Miller, Dorothy S. 1962. Changes in the consumer food market since World War II. Journal of Home Economics. 54:9-14.
- Murray, Janet, and Ennis Blake. 1959. What do we eat? Yearbook of Agriculture 1959. p. 609-619.



Olmstead, Agnes R. 1961. The home economists' responsibility to the family in the consumer age. *Journal of Home Economics* 53:537-542.

*Progressive Grocer*. February, 1964.

Ramsey, Glenn V., Bert Smith, and Bernice Moore. 1963. Women view their working world. Booklet published by Hogg Foundation for Mental Health, University of Texas, Austin, Texas.

Spindler, Evelyn B. 1964. Unpublished report. Federal Extension Nutritionist. United States Department of Agriculture. Washington, D. C.

Smith, Grace. 1964. Personal communication.

Watt, B. K., and A. L. Merrill. 1963. Composition of food. United States Department of Agriculture Handbook No. 8. 190 p.

Wolff, Janet. 1958. Why women buy the food they buy. Report of Proceedings of 8th Annual Food Forum. New York City, 1958. p. 17-27.

APPENDIX

Checker: \_\_\_\_\_  
 Store: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Time of day: \_\_\_\_\_

## CHECK TYPE OF SHOPPER

\_\_\_\_ Woman alone  
 \_\_\_\_ Man alone  
 \_\_\_\_ Man and wife  
 \_\_\_\_ Teenager  
 \_\_\_\_ College student

## AGE OF SHOPPER OR SHOPPERS

\_\_\_\_ Teenager  
 \_\_\_\_ Young married  
 \_\_\_\_ Middle age  
 \_\_\_\_ Older-middle aged  
 \_\_\_\_ Old age

## CHECK ITEMS PURCHASED:

AMOUNT BRAND

REG. SALE  
 PRICE PRICE

## Potatoes—Whole

Instant				
Flaked				
Canned				
Variety (au graten)				
T.V. Dinners—Chicken				
Turkey				
Pizza Pies—Frozen				
Packaged mix				
Chicken Pie—Frozen				
Yeast rolls—Bakery				
Brown 'n serve				
Packaged mix				
Biscuits—Refrigerated (canned)				
Packaged mix				
Noodles—Package				
Prepared mix				
Rice—Instant				
Quick				
Long grain				
Prepared mix				
Pie Crust mix				
Apple pie—Bakery				
Frozen				
Apple Pie Filling				
Cake (German Chocolate)—Bakery				
Packaged mix				
Cakes (other)—Bakery				
Packaged mix				
Frosting—(kind)				
Dips				

Were there other items  
 in addition to food  
 purchased?

None

One

2-5

More than

Total amount of sale: \_\_\_\_\_

5

Figure 3. Convenience foods check sheet

Table 11. Comparison of the cost of convenience foods and their home-prepared counterpart<sup>a</sup>

Product	Servings size	Serving cost (cents)	Added cost per serving for convenience (cents)
Potatoes; cooked:			
Mashed: Home-prepared	3.5 oz	2.25	
Dehydrated	2.5 oz	3.45	+1.20
Boiled (whole): Home-prepared	4.0 oz	2.26	
Canned	4.0 oz	4.56	+2.30
Au gratin: Home-prepared	4.5 oz	5.33	
Dehydrated	4.5 oz	7.54	+2.21
Hash-browns: Home-prepared	3.0 oz	3.04	
Dehydrated	3.9 oz	6.61	+3.57
frozen	4.0 oz	7.00	+3.06
Rice; cooked:			
Long grain	1 cup	2.5	
Quick	1 cup	3.0	+.5
Instant	1 cup	6.0	+3.5
Dehydrated mix: Rice Valencia (Includes tomatoes, vegetable oil, dehydrated vegetables.)	1/2 cup	16.0	
Dehydrated mix: Rice Provence (Includes chicken fat, corn flakes, non-fat dry milk, hydrogenated vegetable protein, dehydrated vegetables. Butter and crumb topping to be added.)	1/2 cup	12.9	
Noodles; cooked			
Package	3 oz	8.4	
Dehydrated mixes: Noodles Romanoff (Includes dehydrated sour cream and cheese. Butter and milk added.)	1/2 cup	14.0	

Table 11. Continued

Product	Servings size	Serving cost (cents)	Added cost per serving for convenience (cents)
Noodles Italina (Includes mazolla and parmesan cheese, dehydrated vegetables, hydrogenated vegetable protein, sugar.)	1/2 cup	12.2	
TV Dinners			
Chicken—Home-prepared	11.1 oz	23.95	
Frozen	11.1 oz	58.63	+34.68
Turkey—Home-prepared	12.5 oz	24.77	
Frozen	12.5 oz	65.16	+40.39
Meat Pies			
Chicken—Home-prepared	7.7 oz	19.85	
Frozen	7.7 oz	25.12	+5.27
Beef—Home-prepared	8.0 oz	16.54	
Frozen	8.0 oz	24.96	+8.42
Pizzas			
Home-prepared	8.3 oz	21.07	
Mix	8.3 oz	24.72	+4.65
Frozen	8.3 oz	43.09	+22.02
Yeast Rolls			
Home-prepared	1.3 oz	1.57	
Mix	1.3 oz	2.13	+ .56
Brown 'n serve	1.3 oz	4.01	+2.44
Bakery	1.3 oz	4.96	+3.39
Biscuits			
Home-prepared	1.4 oz	1.56	
Mix	1.4 oz	1.58	+ .2
Refrigerated	1.4 oz	1.93	+ .37
Frozen	1.4 oz	5.33	+3.77
Apple pie			
Home-prepared	4.7 oz	5.6	
Incomplete mix	4.7 oz	5.62	+ .02
Complete mix	4.7 oz	7.37	+1.77
Frozen	4.7 oz	10.03	+4.43
Bakery	4.7 oz	13.03	+7.43

Table 11. Continued

Product	Servings size	Serving cost (cents)	Added cost per serving for convenience (cents)
Devil's food cake			
Home-prepared	1.7 oz	3.59	
Incomplete mix	1.7 oz	2.49	-1.10
Frozen	1.7 oz	8.19	+4.60
Bakery	1.7 oz	6.21	+2.62
Yellow cake			
Home-prepared	1.2 oz	2.38	
Incomplete mix	1.2 oz	2.04	- .34
Bakery	1.2 oz	4.04	+1.66
German chocolate cake			
Home-prepared	2" square	4.5	
Incomplete mix	2" square	2.5	-2.00
Bakery (plus icing)	2" square	16.5	+12.00
Frostings			
Powdered sugar		1.0	
Frosting sugar		1.5	+ .5
Frosting mix		2.0	+1.0
German chocolate home-prepared		4.2	-2.0
German chocolate mix		2.2	
	<u>Unit size</u>	<u>Unit cost</u>	
Dips			
Commercial	1 cup	49	
Sour cream	1 cup	41	= 60
Dip seasoning	1 pkg.	19	

<sup>a</sup>Values reported by Harp and Dunham, 1963.

Table 12. A comparison of the food value of 100 grams of convenience foods and their home-prepared counterpart

Product	Energy (calories)	Protein (gm)	Fat (gm)	Carbohydrates (gm)	Calcium (mg)	Phosphorus (mg)	Iron (mg)	Vitamin A (IU)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg)	Vitamin C (mg)
Potatoes												
Whole-boiled	65	1.9	.1	14.5	6	42	.5	Tr	.09	.03	1.2	16
Canned	44	1.9	.2	9.8	(4)	(30)	(.3)	Tr	.04	.02	.6	13
Mashed-milk added	65	2.1	.7	13.0	24	49	.4	20	.08	.05	1.0	10
Mashed-milk and fat added	94	2.1	4.3	12.3	24	48	.4	170	.08	.05	1.0	9
Dehydrated mashed— water, milk, and fat added	96	2.0	3.6	14.4	32	52	.5	110	.04	.04	.7	3
Flakes—water, milk, and fat added	93	1.9	3.2	14.5	31	47	.3	130	.04	.04	.9	5
Noodles												
Enriched—cooked	125	4.1	1.5	23.3	10	59	.9	70	.14	.08	1.2	(0)
Rice												
Long grain	109	2.0	.1	24.2	10	28	.9	(0)	.11	( )	1.0	(0)
Parboiled	106	2.1	.1	23.3	19	57	.8	(0)	.11	( )	1.2	(0)
Instant	109	2.2	Tr	24.2	3	19	.8	(0)	.13	( )	1.0	(0)
Mix	Same food value as instant rice											

Table 12. Continued

Product	Energy (calories)	Protein (gm)	Fat (gm)	Carbohydrates (gm)	Calcium (mg)	Phosphorus (mg)	Iron (mg)	Vitamin A (IU)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg)	Vitamin C (mg)
Pizza pies with cheese												
Home recipe—cheese topping	236	12.0	8.3	28.3	221	195	1.0	630	.06	.20	1.0	8
Home recipe—sausage topping	234	7.8	9.3	29.6	17	92	1.2	560	.09	.12	1.5	9
Frozen—partially baked	229	8.9	6.6	33.1	146	146	.9	450	.06	.16	.9	5
Frozen—baked	245	9.5	7.1	35.4	156	156	.9	440	.06	.17	1.0	6
Yeast rolls												
Ready-to-serve	298	8.2	5.6	53.0	74	85	1.9	Tr	.28	.18	2.2	Tr
Brown 'n serve (unbrowned)	299	7.9	6.8	50.6	57	82	1.8	Tr	.24	.20	2.1	Tr
Brown 'n serve (browned)	328	8.7	7.8	54.8	51	89	2.0	Tr	.26	.22	2.3	Tr
Homemade—milk and enriched flour	339	8.2	8.7	56.1	47	102	2.1	80	.25	.26	2.3	Tr
Rolls												
Frozen dough	268	7.5	5.0	47.4	33	76	1.7	Tr	.27	.20	2.2	Tr
Rolls, baked	311	8.5	5.4	56.0	39	88	2.0	Tr	.27	.22	2.3	Tr
Roll mix—water added	299	9.0	4.5	54.5	56	97	.6	Tr	.05	.12	.7	Tr



Table 12. Continued

Product	Energy (calories)	Protein (gm)	Fat (gm)	Carbohydrates (gm)	Calcium (mg)	Phosphorus (mg)	Iron (mg)	Vitamin A (IU)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg)	Vitamin C (mg)
<b>Biscuits</b>												
Home-prepared	369	7.4	17.0	45.8	121	175	1.6	Tr	.21	.21	1.8	Tr
Chilled-in cans	277	7.3	6.4	46.4	53	497	1.7	Tr	.26	.17	2.1	0
Mix-milk added	325	7.1	9.3	52.3	68	232	2.3	Tr	.27	.25	2.0	Tr
<b>Meat Pies</b>												
Chicken—Home-prepared	235	10.1	13.5	18.3	30	100	1.3	1330	.11	.11	1.8	2
Commercial, frozen, unheated	219	6.7	11.5	22.2	11	50	1.0	910	.10	.14	1.4	4
Beef—Home-prepared, baked	246	10.1	14.5	18.8	14	71	1.8	820	.11	.12	2.0	3
Commercial, frozen, unbaked	192	7.3	9.9	18.0	10	48	1.0	410	.03	.06	1.2	Tr
<b>TV dinners</b>												
Chicken—fried, mashed potatoes, mixed vegetables (carrots, peas, corn and beans)	106	13.1	3.2	6.1	10	76	1.6	110	.06	.10	2.1	5
Turkey—sliced mashed potatoes, peas	112	8.4	3.0	12.7	26	87	1.1	130	.07	.09	2.3	4

Table 12. Continued

Product	Energy (calories)	Protein (gm)	Fat (gm)	Carbohydrates (gm)	Calcium (mg)	Phosphorus (mg)	Iron (mg)	Vitamin A (IU)	Thiamine (mg)	Riboflavin (mg)	Niacin (mg)	Vitamin C (mg)
<b>Cakes</b>												
Devil's food—Home prepared	366	4.8	17.2	52.0	74	137	.9	150	.02	.10	.2	Tr
Home-prepared with uncooked white icing	369	3.8	14.6	59.2	59	106	.7	180	.02	.08	.2	Tr
Home-prepared with chocolate icing	369	4.5	16.4	55.8	70	131	1.0	160	.02	.10	.2	Tr
Mix plus eggs, chocolate icing	339	4.4	12.3	58.3	59	105	.8	150	.03	.08	.3	Tr
Frozen—commercial, chocolate icing	380	4.3	17.6	55.6	54	92	.8	430	.02	.08	.2	Tr
Yellow cake—Home prepared	363	4.5	12.7	58.2	71	112	.4	150	.02	.08	.2	Tr
Home-prepared with chocolate icing	365	4.2	13.0	60.4	68	112	.6	160	.02	.08	.2	Tr
Mix plus eggs, chocolate icing	337	4.1	11.3	57.6	91	182	.6	140	.02	.08	.2	Tr
<b>Pies</b>												
Apple—baked	256	2.2	11.1	38.1	8	22	.8	30	.02	.05	.7	1
Frozen—baked	254	1.9	10.1	40.0	8	21	.3	10	.02	.02	.2	Tr
Pie crust—baked	500	6.1	33.4	43.8	14	50	1.7	0	.20	.14	1.8	0
Pie crust mix—baked	464	6.4	29.1	44.0	41	85	.4	0	.03	.03	.5	0